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SHERIDAN ROSS PC			EXAMINER	
1560 BROADWAY			MARTINEZ, BRITTANY M	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/621,752

**Applicant(s)**

AYERS ET AL.

**Examiner**

BRITTANY M. MARTINEZ

**Art Unit**

1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on September 1, 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) 25-27 and 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24, 32 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-840)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Status of Application*

Acknowledgment is made of Applicants' arguments/remarks and amendment filed December 14, 2009, April 9, 2010 and September 1, 2010. **Claims 1-27 and 31-33** are pending in the instant application, with **Claims 1, 5, 7, 10, 11, 14, 16, 18-24 and 33** amended and **Claims 25-27 and 31** withdrawn from further consideration pursuant to 37 CFR 1.142 (b) as being drawn to a nonelected invention. **Claims 28-30** have been cancelled. **Claims 1-24, 32 and 33** have been examined.

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. **Claims 1-24, 32 and 33** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.
3. The portion of **Claim 1** that reads "at least one of an alpha...and a mixture of said alpha...and a beta..." utilizes improper Markush terminology. See MPEP § 2173.05(h).
4. The portion of **Claim 11** that reads "selected from the group consisting of...and...and" utilizes improper Markush terminology. See MPEP § 2173.05(h). This rejection may be overcome by deleting the first occurrence of "and."

5. **Claims 2-20 and 24** depend on indefinite **Claim 1**, and thus, are also rejected under 35 U.S.C. 112, second paragraph, as being indefinite.
6. The portion of **Claim 21** that reads "at least one of an alpha...and a mixture of said alpha...and a beta..." utilizes improper Markush terminology. See MPEP § 2173.05(h).
7. The portion of **Claim 21** that reads "at least one of an alpha...and a mixture of an alpha...and a beta..." utilizes improper Markush terminology. See MPEP § 2173.05(h).
8. The portion of **Claim 21** that reads "at least one of said reactant mixture and said second compressing step" utilizes improper Markush terminology. See MPEP § 2173.05(h).
9. The portion of **Claim 21** that reads "a second pore size" renders the Claim indefinite because it would suggest that there is a first pore size. However, there is no first pore size recited in the Claim.
10. The portion of **Claim 22** that reads "placing said second reactant mixture into said die on top of said first reactant mixture and compressing said second reactant mixture" renders the Claim indefinite because it is unclear how just the second reactant mixture is compressed during such compression. It would appear that both the first reactant mixture and the second reactant mixture would be compressed.
11. **Claim 22** recites the limitation "said formed second reactant mixture" in line 15. There is insufficient antecedent basis for this limitation in the claim.
12. **Claim 22** recites the limitation "said compressed reactant mixtures" in line 17. There is insufficient antecedent basis for this limitation in the claim.

13. The portion of **Claim 22** that reads "at least one of an alpha...and a mixture of said alpha...and a beta..." utilizes improper Markush terminology. See MPEP § 2173.05(h).

14. **Claim 32** depends on indefinite **Claim 22**, and thus, is also rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

15. **Claim 23** recites the limitation "said intended final shape" in line 6. There is insufficient antecedent basis for this limitation in the claim.

16. **Claim 23** recites the limitation "said compressed reactant mixture" in line 8. There is insufficient antecedent basis for this limitation in the claim.

17. The portion of **Claim 23** that reads "at least one of an alpha...and a mixture of said alpha...and a beta..." utilizes improper Markush terminology. See MPEP § 2173.05(h).

18. **Claim 33** depends on indefinite **Claim 23**, and thus, is also rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

#### ***Claim Rejections - 35 USC § 102/103***

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

22. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

23. **Claims 24, 32 and 33** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wong et al. (*Materials Science and Engineering*).

24. With regard to **Claims 24, 32 and 33**, Wong et al. disclose a porous tricalcium phosphate net-shaped material, wherein the net-shaped material has a non-uniform porosity which is functionally graded (Wong et al., "Abstract;" page 111, 2<sup>nd</sup> column, 2<sup>nd</sup>

-3<sup>rd</sup> paragraphs; page 112, 1<sup>st</sup> column, 1<sup>st</sup> paragraph and 2<sup>nd</sup> column, 2<sup>nd</sup> paragraph; Fig. 1; Fig. 5; Fig. 7; Fig. 9; page 115).

25. **Claims 24, 32 and 33** are product-by-process claims. The product is held to be obvious when the reference teaches a product that appears to be the same as, or an obvious variant of, the product set forth in a product-by-process claim, although produced by a different process. See *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983), and *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir.1985). See also MPEP 2113.

#### ***Response to Amendment***

Applicants' amendment filed September 1, 2010, has been fully considered and is accepted. The 35 U.S.C. 112, second paragraph, rejections and Claim Objections of the previous Office action have been withdrawn. However, Applicants' amendment has necessitated the new 35 U.S.C. 112, second paragraph, rejections discussed above.

#### ***Response to Arguments***

26. Applicants' arguments filed December 14, 2009, April 9, 2010 and September 1, 2010, with respect to the pending Claims have been considered but are moot in view of the new ground(s) of rejection. See above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRITTANY M. MARTINEZ whose telephone number is (571) 270-3586. The examiner can normally be reached on Monday-Friday 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emily M. Le can be reached on (571) 272-0903. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wayne Langel/  
Primary Examiner, Art Unit 1793

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/Brittany M Martinez/  
Examiner, Art Unit 1734